

REMARKS

Claims 1-23 are pending in the application. Claims 1-23 stand rejected. Claims 1, 12, and 23 are being amended and substantially reverted back to their respective forms as presented in the Amendment filed on January 14, 2008. Accordingly, Applicants respectfully submit that no new matter is being introduced by the amended claims.

Rejections Under 35 U.S.C. §103(a)

Claims 1-7, 9, 11, 20, 22, and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Simons* (U.S. Patent Application No. 6,332,198, hereinafter referenced to as “*Simons*”) in view of *Ishiwatari* (U.S. Patent No. 6,201,788, hereinafter referenced to as “*Ishiwatari*”).

Claim 1 as currently amended, in the Claim Listing above, recites:

An apparatus for switching signals in a network, comprising:
multiple first switch fabrics to perform facility protection switching at a substrate of the signals relative to a rate at which the signals are received by the multiple first switch fabrics; and
a second switch fabric coupled to the first switch fabrics via respective switch interface modules to switch a subset of the signals in a non-facility protection switching manner among the first switch fabrics.

Applicants’ Claim 1 relates to multiple protection switch fabrics (“multiple first switch fabrics”) for switching signals and a central switch fabric (“a second switch fabric”) that switches a subset of signals in a non-facility protection switching manner among the multiple protection switch fabrics.

Simons relates to a network device that includes cross connect cards 562a, 566a (Figs. 35A, 35B) that are connected to switching fabric cards 570a. As described by Applicants in the Remarks section of an Amendment After Final Rejection dated January 14, 2008 in the paragraph bridging pages 6 and 7, “*Simons*’ cross connect cards may carry Time Division Multiplex (TDM) byte streams, but they cannot perform protective switching at the time slot granularity within the TDM stream, and, consequently, cannot perform switching at a substrate of the TDM stream.”

Ishiwatari relates to a transmission device that includes a working system and a protection system (Fig. 10 of Ishiwatari). The working and protection systems employ a demultiplexing technique to demultiplex received signals, process the demultiplexed signals, and multiplex the processed signals. The working and protection systems are connected using a group of data paths that are used to send identical signals in two directions (see Column 5, lines 20–32). The transmission device of Ishiwatari is designed to combine a demultiplexing process with facility protection switching, such as a unidirectional path switched ring method (UPSR, see Fig. 7 of Ishiwatari) or a bi-directional line switched ring method (BLSR, see Figs. 9A-9B of Ishiwatari), where facility protection switching times of 50 msec are met in accordance with GR-253 or other standards.

The present Office Action acknowledges that Simons fails to teach a system that performs facility protection switching at a substrate of the signals relative to “a rate at which” the signals are received; therefore, the Office Action applies Ishiwatari to cure these deficiencies of Simons.

Applicants respectfully disagree and note that one of ordinary skill in the art would not be motivated to apply the teachings of Ishiwatari because such combination would cause Ishiwatari’s system to fail for its intended purpose (*i.e.*, demultiplexing combined with facility protection switching, such as UPSR).

Specifically, Ishiwatari does not offer any suggestion of how substrate signals may be switched using a central switch fabric, such as Simons’ switching fabric card 570a. Ishiwatari only suggests using low bit rate signals with working and protection switching systems to perform facility protection switching and does not recognize or suggest using a central switch fabric for performing non-facility protection switching. In order for Ishiwatari’s system to be able to switch its demultiplexed low bit rate signals with a central switch fabric (*i.e.* perform non-facility protection switching), additional switching would need to be added at multiple physical locations at corresponding logical hierachal levels.

To combine Ishiwatari’s facility protection switching with non-facility protection switching, first, Ishiwatari’s system would need to be modified to be physically connected to a central switch fabric, paired with the working and protection switches. Such interconnections, while seemingly simple, are not necessarily so because the central, hypothetically combined,

non-facility protection switch fabric itself would have to be modified to recognize signaling (e.g., all 1's) that causes facility protection switching of the Ishiwatari working and protection switching systems to switch within the 50 msec facility protection switch times. Alternatively, a processor associated with facility protection switch would have to be programmed to cause the hypothetically combined central switch fabric to perform switching to switch the working and protection switch paths within the central switch fabric. Even if the hypothetically combined central switch fabric were provided with static interconnections such that the hypothetically combined central switch fabric was not required to make switches within the aggregate 50 msec path switching time, the hypothetically combined central switch would not have been considered because it would not have been considered scalable with the network. In other words, fixed interconnects within an ever-expanding network can only handle more network paths by increasing the number of switch paths and switching substrate signals, such as Ishiwatari's demultiplexed signals, via static multiplexed interconnections would have increased the scalability requirements.

Second, Ishiwatari's system would not only be required to be modified to connect working and protection switch paths to a hypothetical central switch fabric, such as Simons' central switch fabric, but also support lower rate signals, switched in a non-facility protection switching manner, to be reinserted into the external east-west traffic paths in a transparent manner. Because of Ishiwatari's demultiplexing, in order to reinsert the non-facility protection switched signals, additional switches between Ishiwatari's demultiplexers 22, 32, and multiplexers 24, 34 would be required, and such switches would be required to have awareness of facility protection switching and operate within the appropriate 50 milliseconds facility protection switching constraint. Therefore, these hypothetical additional switches would be required to be interconnected to outputs of a non-facility protection central switch fabric and operate in unison with facility protection switches. Given such physical and logical requirements, likely the hypothetical additional switches would operate at a different hierachal logical level from switches 26a, 36a, or bridges 29a, 39a already existing in Ishiwatari's system. The foregoing modifications would clearly result in substantial modification of Ishiwatari's system and would only be done in hindsight of Applicants' teachings. Additionally, the revision of the switching mechanism described by Ishiwatari to include the central switch fabric of

Simons may cause Ishiwatari's system to fail the requirements of facility protection switching (e.g., 50 millisecond switching rate) and result in failure of Ishiwatari's system for its intended purpose (*i.e.*, use with UPSR).

Accordingly, Applicants respectfully submit that one of ordinary skill in the art would not have been motivated at the time of applicant's filing to combine the teachings of Simons and Ishiwatari to arrive at Applicants' Claim 1. Even if combined, such combination would require substantial modification, effectively changing the principles of Ishiwatari's operation, and would only be done in hindsight of Applicants' disclosure and claims.

Therefore, it is Applicants' position that Claim 1 is allowable over Simons in view of Ishiwatari. Accordingly, Applicants respectfully request that the rejection of these claims under 35 U.S.C. § 103(a) be withdrawn.

Amended independent Claims 12 and 23 include similar elements as Claim 1. Accordingly, Applicants respectfully request that the rejection of this claim under 35 U.S.C. § 103(a) be withdrawn for the reasons presented above.

Since the remaining claims, dependent Claims 2-7, 11, 13-18, and 22, depend from amended independent Claims 1 or 12, Applicants respectfully request that these dependent claims be allowed for at least the same reasons as the respective base claims from which they depend.

Claims 8 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Simons in view of Ishiwatari in further view of Taniguchi (U.S. Patent 6,456,587).

Claims 10 and 21 are rejected under 35 U.S.C. §103(a) as being unpatentable over Simons in view of Ishiwatari in further view of Li (U.S. Patent Publication No. 20040213205).

Taniguchi is being combined with Simons and Ishiwatari because neither one of these references discloses performing facility protection switching "within the predetermined time span," as required by Applicants' Claims 8 and 19. Li is being combined with Simons and Ishiwatari because neither one of these references discloses "a content processor coupled to and between the first and second switch fabric to convert the signals from a first protocol to a second protocol," as required by Applicants' Claims 10 and 21.

Rejected Claims 8, 10, 19, and 21 depend from amended base Claims 1 or 12. However, as described above, one ordinary skill in the art would not be motivated to combine the teachings

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of Simons and Ishiwatari to arrive at Applicants' claimed invention. Therefore, without acquiescing to or discussing the merits of the reasons for rejecting these claims in view of the references, it is Applicants' position that claims 8, 10, 19, and 21 are allowable over a combination of these references. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. §103(a) of Claims 8, 10, 19, and 21 be withdrawn.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims that will be pending after the entry of this amendment, namely Claims 1-24, are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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